

U.S. Application No.: 09/509,626  
AMENDMENT A

ATTORNEY DOCKET: 3926.004

Please add the following additional claim:

9. A process for simultaneously receiving different radio standards, comprising:

B |

- receiving and superimposing multiple various modulation types of radio standards in a single radio receiver and,
- carrying out a separation of the same by a subsequent digital signal processing.

REMARKS

The present invention is characterized by simultaneously receiving different radio standards in a single radio receiver, in a process comprising:

- carrying out a superimposing of multiple various modulation types of the radio standard and,
- carrying out a separation of the same by a subsequent digital signal processing.

It is respectfully submitted that the art cited by the Examiner does not teach such a process.

Accordingly, review and reconsideration of the Office Action of July 24, 2002, is respectfully requested in view of the above amendments and the following remarks.

Claim 9 is based on original claim 1 and merely recites explicitly what was previously implicit.

Office Action

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The paragraphing of the Examiner is adopted.

**Paragraph 1 - Priority**

The Examiner has acknowledged Applicant's claim for priority under 35 U.S.C. §119 and receipt of the certified copy of the priority document.

**Paragraph 2 - Drawings**

The Examiner indicates that he did not receive the drawings with the application papers and is requesting to be supplied with the drawings.

In response, Applicants submit herewith copies of the PCT figures in English language.

**Paragraphs 3-4 - Claim Rejections - 35 USC §102**

Claims 1 and 8 are rejected under 35 U.S.C. §102(e) as being clearly anticipated by Krasner (WO 97/14056).

Applicants first respectfully traverse the validity of the rejection.

The instant application 09/509,626 (US filing date 03/30/2000) is a national stage entry of PCT/EP99/05951 having an International Filing date of 08/13/1999. The reference relied upon per the 35 USC 102§(e) has a publication date of April 17, 1997 and international filing date of October 8, 1996.

Here, there is no 102§(e) date. Only the publication date is applicable, constituting the reference as a 102§(b) type reference.

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Furthermore, prior to the AIPA of 1999, under a 35 USC 102§(e) type rejection, only a US patent can be used. Again as per the instant reference, Krasner (WO 97/14056) prior to the AIPA of 1999, would not be applicable as a 102§(e) reference and would thereby constitute a 102§(b) type reference.

The Examiner is reminded that under the new law or act of 2002, for a reference to qualify as a 102(e) type reference, the reference must have a filing date on or after November 29, 2000 with an English translation and a designation must be the US.

Thus, the instant rejection of claims 1-8 is incorrect and should be withdrawn. Early favorable action passing the application into allowance is earnestly requested.

Turning now the rejection on the merits, according to the Examiner, regarding present claim 1 Krasner teaches a process for simultaneously receiving different radio stands, comprising:

- carrying out a superimposing of multiple various modulation types (GPS and Communication in Fig. 1A) of the radio standard (superimposing step done by 6 of Fig. 1A and also stated in Claim 73) and,

- carrying out a separation of the same by a subsequent digital signal processing (see 10 of Fig. 1A and pg. 6, line 15-22).

Regarding present claim 8, according to the Examiner Krasner teaches an A/D conversions carried out prior to demodulation (see 8 of Fig. 1A).

Applicants respectfully traverse.

The invention is directed toward improving the processing efficiency signals of various radio standards. The invention includes a process in which the addition of a CDMA encoded signal and a hitherto conventional modulated signal preferably at intermediate frequencies leads to a simplification of the demands on the analog-to-digital converter and the intermediate frequency editing since before decorrelation the CDMA signal can be lowered than the background noise and is raised from the background noise (No) only by subsequent decorrelation.

The present claims recite simultaneously receiving different radio standards in a single radio receiver, in a process comprising:

- carrying out a **superimposing** of **multiple various modulation types of the radio standard** and,
- carrying out a separation of the same by a subsequent digital signal processing.

As per the 35 USC 102S(e) rejection of claims 1 and 8, the Examiner is reminded that 35 USC 102 requires that the applied reference must teach each and every claimed feature or limitation or the applied reference must inherently teach the claimed features or elements.

Regarding claim 1, the Examiner improperly refers to figure 1A, specifically element 6 of figure 1A and claim 73 of Krasner to show teachings the "superimposing" steps. Present claim 1 reads a superimposing of multiple various modulation types of the radio standard are carried out. The passage relied upon by

the Examiner however, not only fails to teach or suggest the claimed features, also **teaches away** from the claimed invention. Element 6 of figure 1A and claim 73 of Krasner refers to element 6 of figure 1A of being a **Switch** (see page 5, lines 3-19). Element 6 of figure 1A is a switch which selects a signal from either filter A (element r, figure 1A) **or** filter B (element 4 of figure 1A) to be sent as an input to converter 7 so as to be converted to an intermediate frequency for eventually processing as a signal through DSP chip 10.

The Examiner further erroneously indicates that element 10 of figure 1A carries out a separation of signals. The Examiner has cited page 6, lines 15-22 in support.

Again in reviewing the cited passage on page 6, lines 15-22, there is no actual teaching or suggestion or an inherent teaching of the separation step as recited in independent claim 1. In fact, no actual separation of signals would be required in Krasner because the signals are of the same signal type. Claim 1 of the present invention requires a superimposing of multiple modulation types of the radio standard is being carried out. Thus, the signal types are of different standards. The modulation types as supported in the specification may be mobile communications or satellite communications.

Claim 1 also requires that the separation is done by a subsequent digital signal. Krasner does not teach or suggest the features recited in independent claim 1.

The Examiner has further rejected claim 8 and cited element 8 of figure 1A to show teachings of the A/D conversion prior to

demodulation. Applicant disagrees with the Examiner. While element 8 of figure 1A clearly shows an A/D converter, such is accomplishing a different task from what is being claimed in claim 8. The purpose of the A/D converter in the present invention is to reduce the number of hardware components required. In so doing, the mixers and filters can be saved. The A/D converters receive mixed and filtered signals from different radio standards. See figures 2-4 of the instant drawings of the present invention. The signals after being passed through the A/D converter are then parts again separated and the GPS-signal would be lifted out of the noise through decorrelation or demodulation.

Krasner teaches away from these claimed features. Only one signal enters the A/D converter (figure 1A, element 8) of Krasner. Krasner on page 5, last paragraph indicates that "In some implementations, the RF to IF converter 7 provides a pair of outputs that are in phase quadrature; in such cases, two A/D Converters may be employed. The output from the A/D Converter 8 is coupled to an input of the digital snapshot memory 9 which can store the record of data to be processed". It is therefore clear that the purpose of the A/D converter of the instant invention and that of Krasner are different.

Regarding the Examiner's reference to claim 73, this claim teaches exclusively a sequential or as the case may be alternative processing of incoming signals. At no time is there any hint of suggestion that the receiver should be capable of

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simultaneously receiving different radio standards, to store these and subsequently to subject these to further processing.

Further yet the text referenced by the Examiner is concerned only with the processing of the communication signal and not with a simultaneous processing of GPS signals and communication signals.

It is precisely this which is the subject of the present invention - the simultaneous receiving and processing of multiple different radio standards.

The Applicant request withdrawal of the rejection of the rejection of claims 1 and 8 and all of their dependent claims.

**Paragraphs 5-6 - Claim Rejections - 35 USC §103**

Claims 2-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Krasner (WO 97/14056) in view of Ostman, et al. (US 6,069,923).

According to the Examiner:

Claim 2 - Krasner does not teach the superimposing carried out in two frequency ranges. Ostman teaches the superimposing carried out in two frequency ranges.

Claim 3 - Ostman also teaches the superimposing of high-frequency signals carried out prior to the first mixing step.

Claim 4 - Ostman also teaches the sum of the output of two narrow band oscillators is employed local oscillator for the first mixing step.

Claim 5 - Ostman also teaches that for each modulation type one filter 204a and 204b and amplifier 202a and 202b is employed

Claim 6 - Krasner also teaches that for all modulation types, a special HF-filter 3 and 4 with level accommodation and band selection is employed.

Applicants respectfully traverse.

The Examiner indicated that "Ostman et al teaches the superimposing carried out in two frequency ranges" and cited the abstract as providing these teachings. On review of this reference, it is noticed that Ostman does not cure the deficiencies provided in Krasner. Ostman et al, like Krasner make uses of the same signal type or standard received from antenna 201. The signal is supplied in two reception branches A and B. See column 4, lines 35-64 of Ostman et al. Signal processing is made and a first and second intermediate signal is obtained. This teaches away from the claimed invention. A switch 222 selects signals from either of branches A or B which carries the same signal type. The claimed invention makes no use of a switch and a plurality of signals may be processed.

The Examiner has further improperly supplied the same motivation provided by the applicant in solving the problem in the art. The Examiner has failed to properly establish a *prima facie* case based on the **Graham v. Deere** test.

The Examiner is reminded that it is not permissible to use hindsight and/or the present claims and specification as a template while isolating claimed features. Features of claim 1 which claims 2-6 depend upon as argued above are not successfully addressed by the Examiner. As indicated in the **MPEP Section 2143**, "Finally, the prior art reference (or

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references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure". Applicant's purpose of the invention and arrangement of the specific hardware found in figures 2-5 and as claimed is to reduce the amount of hardware (mixers and filters) to simultaneously receive different radio standards. The Examiner is referred to page 2 of Applicant's specification.

Because one signal type is being processed in either Krasner or Ostman et al., no superimposing or separation of the signals would be required. Therefore, features of claims 4-6 taken alone or in combination would not have been obvious to one of ordinary skill in the art at the time of the invention.

Withdrawal of the rejection is respectfully requested.

**Paragraph 7**

Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Krasner (WO 97/14056) in view of Kim (US 5,963,592).

According to the Examiner, "Kim teaches the superimposing of a OFDM-encoded signal (see col. 1, lines 47-50). Therefore, it would have been obvious one of ordinary skill in the art at the time the invention was made to provide the teachings of Kim to said process of Krasner in order to better use one circuitry for two different radio standards".

Applicant respectfully disagrees.

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Kim at column 1 is describing the state of the art.

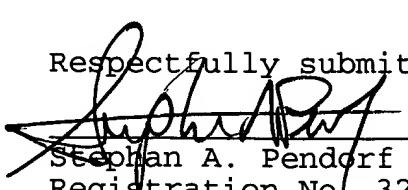
While Kim suggests that an OFDM can be combined with other signal types on column 1, lines 53-57, Kim fails to teach or suggest superimposing of a CDMA-encoded signal and a OFDM-encoded signal.

Again the Examiner's motivation is incorrect since Krasner, being the primary reference is silent of using two different types of radio standards. Combining Kraner with Kim would not produce the result of claim 7.

As can be seen from the above discussion, Applicant respectfully requests withdrawal of the rejection of claims 1-8 and passes the claims to issue. If the Examiner believes that additional clarification is required from passing the application to issue, the Examiner is encouraged to telephone the undersigned at his earliest convenience to resolve any pending matter(s).

Entry and favorable consideration prior to consideration are respectfully requested.

Respectfully submitted,

  
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Date: December 24, 2002

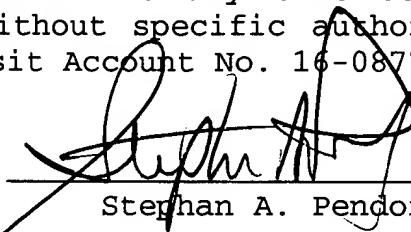
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CERTIFICATE OF MAILING AND AUTHORIZATION TO CHARGE

I hereby certify that the foregoing AMENDMENT A for U.S. Application No. 09/509,626 filed March 30, 2000, was deposited in first class U.S. mail, postage prepaid, addressed: Attn: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on **December 24, 2002.**

The Commissioner is hereby authorized to charge any additional fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account No. 16-0877.

  
Stephan A. Pendorf

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE HEREBY ATTACHED**

The Examiner is requested to accept the marked-up version as it is based on the previous version, which when modified as below, produces the clean version submitted with the current amendment.

**IN THE CLAIMS:**

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1. A process for simultaneously receiving different radio standards, comprising:
  - carrying out a superimposing of multiple various modulation types of the radio standard and,
  - carrying out a separation of the same by a subsequent digital signal processing.
2. Process according to Claim 1, wherein the superimposing is carried out in two frequency ranges
3. Process according to Claim 1, wherein a superimposing of high frequency signals is carried out prior to the first mixing step.
4. Process according to Claim 3, wherein the sum of the output of two narrow band oscillators is employed as the local oscillators for the first mixing step.
5. Process according to Claim 3, wherein for each modulation type one filter and amplifier is employed.

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6. Process according to Claim 3, wherein for all modulation types a special HF-filter with level accommodation and band selection is employed.

7. Process according to Claim 1, wherein a superimposing of a CDMA-encoded and a OFDM-encoded signal is carried out.

8. Process according to Claim 1, wherein prior to decorrelation or demodulation, an A/D conversion is carried out.

Please add the following additional claim:

9. A process for simultaneously receiving different radio standards, comprising:  
- receiving and superimposing multiple various modulation types of radio standards in a single radio receiver and,  
- carrying out a separation of the same by a subsequent digital signal processing.